

# Use of medication and psychological counselling among Canadians with mood and/or anxiety disorders

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## Abstract

**Introduction:** This study describes the use of prescription medications and psychological counselling in the past 12 months among Canadian adults with a self-reported mood and/or anxiety disorder diagnosis; the sociodemographic and clinical characteristics associated with their use; and reasons for not using them.

**Methods:** We used data from the 2014 Survey on Living with Chronic Diseases in Canada—Mood and Anxiety Disorders Component. The study sample ( $n = 2916$ ) was divided into four treatment subgroups: (1) taking medication only; (2) having received counselling only; (3) both; or (4) neither. We combined the first three subgroups and carried out descriptive and multivariate logistic regression analyses comparing those who are taking medication and/or have received counselling in the past 12 months, versus those doing neither. Estimates were weighted to represent the Canadian adult household population living in the 10 provinces with diagnosed mood and/or anxiety disorders.

**Results:** The majority (81.8%) of Canadians with a mood and/or an anxiety disorder diagnosis reported they are taking medications and/or have received counselling (47.6% taking medications only; 6.9% received counselling only; and 27.3% taking/having received both). Upon controlling for individual characteristics, taking medications and/or having received counselling was significantly associated with older age; higher household income; living in the Atlantic region or Quebec versus Ontario; and having concurrent disorders or mood disorders only. Symptoms controlled without medication was the most common reason for not taking medications, while preferring to manage on their own and taking medications were among the common reasons for not having received counselling.

**Conclusion:** The majority of Canadian adults with a mood and/or an anxiety disorder diagnosis are taking medications, while few have received counselling. Insights gained regarding the factors associated with these treatments, and reasons for not using them, emphasize the importance of discussing treatment options and perceived barriers with patients to ensure they receive the best treatment according to their needs and preference.

**Keywords:** mood disorders, anxiety disorders, medications, counselling, treatment, health surveys, population surveillance, Survey on Living with Chronic Diseases in Canada

## Introduction

Mood and anxiety disorders are among the most common types of mental illnesses in Canada,<sup>1</sup> with an estimated 3 million Canadian adults having self-reported

a mood and/or an anxiety disorder diagnosis in 2013.<sup>2</sup> Effective treatments exist; however, a number of recent studies have shown that these mental health disorders are underdiagnosed<sup>3-7</sup> or, when diagnosed, are often suboptimally treated or not

## Highlights

- The majority (81.8%) of Canadian adults with a self-reported mood and/or anxiety disorder diagnosis stated they were taking prescription medication and/or had received psychological counselling in the past 12 months.
- Prescription medication was more commonly reported in the treatment of these disorders than psychological counselling.
- Taking/having received medication and/or counselling was significantly associated with age, household income and type of disorder.
- Symptoms controlled without medication was the most common reason for not taking medications to help manage their disorder.
- Preferring to manage on their own, and taking medication were among the most common reasons for not having received counselling.
- Findings from this study emphasize the importance of discussing treatment options and perceived barriers with patients in order to ensure they receive the optimal treatment according to their needs and preference.

treated at all.<sup>7-10</sup> Increased emphasis on strategies that aim to improve access to and receipt of evidence-based treatment could improve the well-being of people living with these disorders.<sup>11</sup>

Treatments come in many forms, ranging from the more established therapies such as pharmacotherapy and psychotherapy,<sup>12-14</sup> to newer treatments (used either alone or

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as an adjunct) such as Internet-based cognitive behavioural therapy (CBT),<sup>15</sup> herbal therapies,<sup>16</sup> meditation<sup>17</sup> and physical activity/exercise.<sup>18,19</sup>

Pharmacotherapy and psychotherapy are both considered effective “first-line” treatments<sup>12</sup> and are often used in combination to optimize response.<sup>14,20</sup> Besides treatment effectiveness, decisions regarding the choice of pharmacological and/or psychological treatment are influenced by other factors, including patient preference and adherence, response to treatment, availability and accessibility of treatments, services and trained health care providers, and financial considerations.<sup>21,22</sup>

A few studies have documented the diagnosis and treatment status of people with symptoms compatible with mood and/or anxiety disorders.<sup>23-25</sup> However, to our knowledge, none have reported national-level data on the use of the two most established treatments (i.e. prescription medications and psychotherapy) among Canadian adults with these disorders.

Thus, using data from the 2014 Survey on Living with Chronic Diseases in Canada—Mood and Anxiety Disorders Component (SLCDC-MA), we report on the use of prescription medications and psychological counselling in a nationally representative sample of community dwelling Canadian adults with a self-reported diagnosis of a mood and/or an anxiety disorder. More specifically, we (1) describe their use of prescription medications and/or psychological counselling to help manage their disorder(s); (2) compare the sociodemographic and clinical characteristics associated with the use of these treatment strategies; and (3) examine the reasons for not using them.

## Methods

### Data source and study sample

The 2014 SLCDC-MA, a cross-sectional follow-up survey to the 2013 Canadian Community Health Survey (CCHS)—Annual Component, surveyed Canadians aged 18 years old and older who are living in private dwellings within the 10 provinces with a self-reported professionally diagnosed mood and/or anxiety

disorder. The survey was administered by trained personnel via a structured telephone interview (in English or French) during two data collection periods: November to December 2013 and February to March 2014.

Respondents were identified through the 2013 CCHS by way of responding “yes” to having received a mood and/or an anxiety disorder diagnosis from a health professional that had lasted or was expected to last six months or more.<sup>26</sup> Of the 5875 respondents selected for the 2014 SLCDC-MA, a total of 3361 completed the survey (response rate = 68.9%). Excluded from the survey’s coverage were residents of the three territories (Yukon, Northwest Territories and Nunavut), persons living on Indian reserves or Crown lands, people in institutions, full-time members of the Canadian Forces and residents of certain remote regions, which altogether represent about 3% of the target population. For the purpose of this study, respondents who reported “no” to *having* a mood and/or an anxiety disorder diagnosis (vs. *having ever* been diagnosed) were excluded (n = 445) thus, our final study sample consisted of 2916 respondents.

The methodology of the 2014 SLCDC-MA and the sociodemographic characteristics of the final sample have been described elsewhere.<sup>27</sup> The term “mood and/or anxiety disorders” used throughout this article refers to those who have self-reported diagnosed mood disorders only, anxiety disorders only, and concurrent mood and anxiety disorders.

### Measures

#### Treatment subgroups

Respondents were classified into one of four mutually exclusive treatment subgroups based on their responses to the following three questions regarding their current use of prescription medications and psychological counselling: “Currently, are you taking any prescription medications for your [mood and/or anxiety] disorder?” (response options: “yes,” “no”); “During the past 12 months, have you seen or talked on the telephone to any of the following people about your [mood and/or anxiety] disorder?” (response options:

“family doctor or general practitioner”; “psychiatrist”; “psychologist”; “social worker, counsellor, or psychotherapist”; “nurse or nurse practitioner”; “other medical doctor or specialist”; “other health professional”; “none”); and those who chose any answer option to the second question other than “none” were then asked “In the past 12 months, did you receive psychological counselling to help manage your [mood and/or anxiety] disorder?” (response options: “yes,” “no”).

Based on responses to these questions, respondents were categorized into one of the following four subgroups: (1) taking prescription medication only; (2) having received psychological counselling in the past 12 months only; (3) taking/having received both treatments; or (4) taking/having received neither treatment. For analytic purposes, the first three treatment subgroups were combined to form a subgroup “taking medications and/or having received counselling.” Figure 1 illustrates how respondents were categorized into one of the four aforementioned mutually exclusive subgroups.

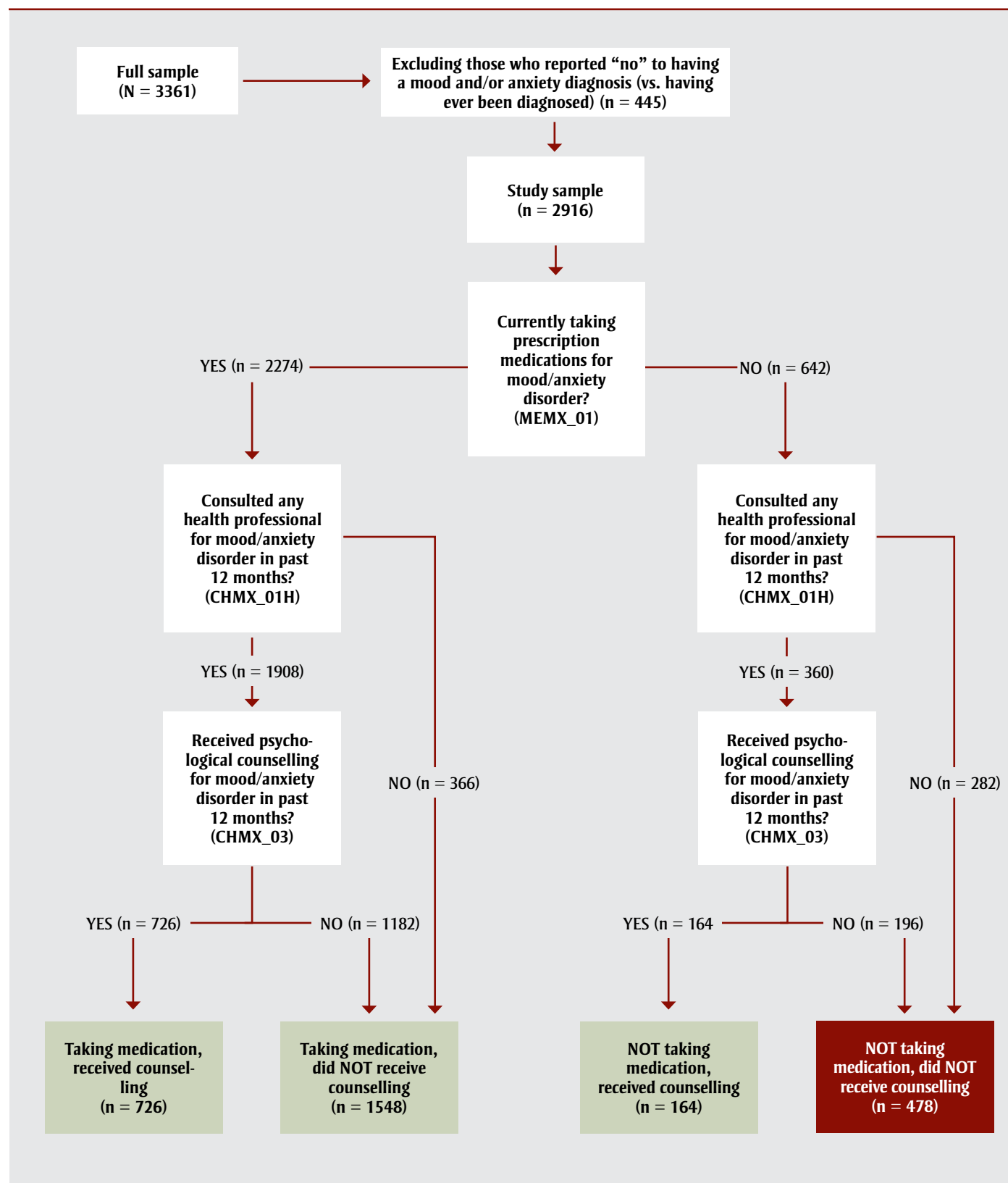
### Sociodemographic and clinical characteristics

The sociodemographic characteristics we studied included sex (female, male); age (age groups 18–34, 35–49, 50–64 and 65+ years), marital status (single/never married, widowed/separated/divorced and married/living common-law); respondent’s highest level of education (less than post-secondary education, post-secondary graduation); immigrant status (yes, no); Aboriginal status (yes, no); geographic region (British Columbia, Prairie region, Ontario, Quebec and Atlantic region); place of residence (urban, rural); and adjusted household income adequacy quintiles (deciles, derived by Statistics Canada,\* transformed into quintiles). The quintiles were then categorized as follows: (1) first or second quintile (lowest); (2) third quintile (middle); and (3) fourth or fifth quintile (highest).

The clinical characteristics we explored included type of disorder (mood disorders only, anxiety disorders only, and concurrent mood and anxiety disorders); duration of disorder, i.e. number of years since being diagnosed (0–4, 5–19 and 20+ years);

\* This derived variable is a distribution of respondents in deciles (10 categories including approximately the same percentage of residents for each province) based on the adjusted ratio of their total household income to the low-income cut-off corresponding to their household and community size. It provides, for each respondent, a relative measure of their household income to the household incomes of all other respondents.<sup>27</sup>

**FIGURE 1**  
Flowchart illustrating how respondents were identified and categorized into one of the four mutually exclusive treatment subgroups (n = 2916), 2014 SLCDC-MA



**Abbreviations:** n, unweighted number; SLCDC-MA, Survey on Living with Chronic Diseases in Canada—Mood and Anxiety Disorders Component.

**Note:** MEMX\_01, CHMX\_01H and CHMX\_03 are variable names. Treatment subgroups in green boxes were combined to form a “medications and/or counselling” subgroup for analytical purposes.

and number of physical comorbidities (0, 1–2 and 3+). We determined the number of physical comorbidities using responses to the question regarding conditions diagnosed by a health professional that had lasted or were expected to last six months or longer, including asthma, arthritis, back problems, chronic obstructive pulmonary disease, diabetes, heart disease, cancer, stroke, bowel disorder/Crohn disease/colitis and Alzheimer disease/dementia. Each condition was counted as one physical comorbidity.

### **Reasons for not taking prescription medication(s) and/or receiving psychological counselling to help manage mood and/or an anxiety disorder symptoms**

Respondents who responded “no” to taking prescription medications or “no” to having received psychological counselling in the past 12 months were asked why. These were open ended questions with a mark-all-that-apply response option. The interviewer categorized the respondent’s answer according to a list of potential response options. Reasons for no longer taking or never having taken any prescription medications included “no medication prescribed,” “side-effects,” “too costly/no insurance,” “controlled without medication,” “embarrassed/uncomfortable/concerned what others would think,” “do not want to become dependent,” “other” and “no reason.” Reasons for not having received psychological counselling included “don’t know who to go to,” “time constraints (too busy, family responsibilities, work schedule),” “wait time too long,” “too costly/not covered by insurance,” “prefer to manage the condition themselves,” “taking medication to manage the condition,” “too embarrassed/uncomfortable/concerned what others would think,” “other” and “no reason.”

### **Statistical analysis**

We conducted cross-tabulation descriptive analyses to describe the sociodemographic and clinical characteristics of respondents by treatment status. We used chi-square tests (categorical variables) and a linear regression analysis (count variables, i.e. age) to explore the relationship between respondent characteristics and taking medications and/or having received counselling versus taking/receiving neither. A

multivariate logistic regression analysis was used to examine the independent association between respondents’ characteristics and taking medications and/or having received counselling versus doing neither. Missing data accounted for less than 10% of the original data in the model. Statistical significance was determined at the  $p$ -value < .05 level. In addition, we performed descriptive analyses to examine reasons for not taking prescription medications and/or not having received psychological counselling in the past 12 months.

To account for sample allocation and survey design, all estimates were based on weighted data using sample weights generated by Statistics Canada so that the data would be representative of the Canadian household population aged 18 years and older living in the 10 provinces with a self-reported mood and/or anxiety disorder diagnosis. Sample weights were adjusted by Statistics Canada for exclusions, sample selection, in-scope rates, non-response and permission to share and link.<sup>28</sup> Variance estimates, including 95% confidence intervals and coefficients of variation, were calculated using bootstrap weights provided with the data and using the bootstrap technique.<sup>29</sup> Only results with a coefficient of variation less than 33.3% are reported, as per Statistics Canada guidelines.<sup>28</sup> We used SAS Enterprise Guide, version 5.1 (SAS Institute Inc., Cary, NC, USA) for the data analyses.

## **Results**

### **Study population by treatment subgroup**

The majority (81.8%) of Canadians 18 years and older with a self-reported mood and/or anxiety disorder diagnosis reported they are taking prescription medications and/or have received psychological counselling in the past 12 months. Of these, close to half (47.6%) reported taking medications only, 6.9% having received counselling only and 27.3% taking/having received both. Close to one-fifth (18.2%) reported doing neither. The relationship between individuals’ characteristics and taking medications and/or having received counselling (vs. neither) was significant for age, marital status and disorder

type. Those who reported taking/having received neither treatment were more likely to be younger, to be single/never married and to have an anxiety disorder only (Table 1).

### **Association between individual characteristics and taking medications and/or having received counselling versus neither**

Upon adjusting for all sociodemographic and clinical characteristics,<sup>†</sup> results demonstrated that taking medications and/or having received counselling (vs. neither) was significantly associated with (adjusted odds ratio [OR] [95% CI]) being older (3.9 [1.8–8.2], 2.4 [1.3–4.5] and 2.5 [1.4–4.5] among those 65+, 50–64 and 35–49 years, respectively, vs. 18–34 years); having higher household income (1.9 [1.3–2.9] in the Q4 and Q5 adequacy quintiles vs. Q1 and Q2); living in the Atlantic region or Quebec versus Ontario (2.4 [1.4–4.2] and 1.8 [1.1–3.0], respectively); and having concurrent mood and anxiety disorders or mood disorders only versus anxiety disorders only (2.2 [1.4–3.5] and 1.9 [1.2–2.9], respectively) (Table 2).

### **Reasons for not taking prescription medications and not having received psychological counselling**

The three most common reasons reported for not taking medications to help manage mood and/or anxiety disorder symptoms were “controlled without medication” (41.8%), “other” reasons (29.4%) and “side-effects” (24.6%). As for not having received psychological counselling in the past 12 months, the three most common reasons stated were “prefer to manage the condition themselves” (31.0%), “other reasons” (30.8%) and “taking medication to manage the condition” (30.2%) (Figure 2).

## **Discussion**

To help manage their disorder(s), the majority (81.8%) of Canadian adults with a self-reported mood and/or anxiety disorder diagnosis reported taking medications and/or having received counselling; however, close to one-fifth (18.2%) reported taking/having received neither. The socio-demographic and clinical characteristics associated with taking medications and/or

<sup>†</sup> Sex, age, marital status, respondent’s level of education, adjusted household income adequacy quintiles, immigrant status, Aboriginal status, geographic region, place of residence, type of disorder, duration of disorder and number of physical comorbidities.

**TABLE 1**  
**Sociodemographic and clinical characteristics among Canadians aged 18 years and older with a self-reported mood and/or anxiety disorder diagnosis by treatment type (n = 2916), 2014 SLCDC-MA**

	Medication AND/OR counselling (n = 2438; 81.8%)	Medication ONLY (n = 1548; 47.6%)	Counselling ONLY (n = 164; 6.9%)	Medication AND counselling (n = 726; 27.3%)	Neither (n = 478; 18.2%)	Medication AND/ OR counselling vs. neither  Chi-square test
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	<i>p</i> -value
SOCIODEMOGRAPHIC CHARACTERISTICS						
Sex						
Female	81.8 (78.8–84.8)	47.9 (44.0–51.8)	7.2 (5.0–9.3)	26.7 (23.1–30.4)	18.2 (15.2–21.2)	.966
Male	81.7 (77.4–85.9)	47.0 (41.0–53.0)	6.4 <sup>a</sup> (3.2–9.5)	28.3 (22.5–34.1)	18.3 (14.1–22.6)	
Age (years)						
Mean age	48.0 (47.1–48.4)	51.0 (49.8–52.2)	35.1 (32.4–37.8)	46.0 (44.4–47.5)	42.2 (40.3–44.2)	< .001 <sup>b,*</sup>
Age groups						
18–34	71.4 (65.5–77.4)	30.5 (24.0–36.9)	15.3 <sup>a</sup> (10.0–20.7)	25.7 (19.1–32.2)	28.6 (22.6–34.5)	< .001 <sup>*</sup>
35–49	85.0 (80.5–89.5)	44.3 (37.2–51.5)	6.5 <sup>a</sup> (3.4–9.5)	34.2 (26.6–41.9)	15.0 (10.5–19.5)	
50–64	84.7 (80.8–88.6)	56.0 (50.6–61.3)	2.8 <sup>a</sup> (1.3–4.4)	25.9 (21.2–30.5)	15.3 (11.4–19.2)	
65+	87.3 (83.5–91.0)	66.6 (61.0–72.2)	NR <sup>c</sup>	19.4 (14.4–24.3)	12.7 (9.0–16.5)	
Marital status						
Single/never married	76.1 (71.2–81.0)	37.4 (31.5–43.3)	12.6 <sup>a</sup> (8.4–16.7)	26.1 (20.7–31.5)	23.9 (19.0–28.8)	.006 <sup>*</sup>
Widowed/ separated/ divorced	85.8 (81.6–90.0)	50.5 (43.6–57.4)	NR <sup>c</sup>	30.5 (24.1–36.9)	14.2 (10.0–18.4)	
Married/living common-law	83.1 (79.9–86.2)	51.3 (46.7–56.0)	4.9 <sup>a</sup> (2.8–7.0)	26.8 (22.4–31.3)	16.9 (13.8–20.1)	
Respondent's education level						
Less than post-secondary	79.1 (75.3–83.0)	51.2 (46.7–55.7)	7.0 <sup>a</sup> (4.6–9.5)	20.9 (17.1–24.7)	20.9 (17.0–24.7)	.084
Post-secondary	83.5 (80.3–86.7)	45.3 (40.7–50.0)	6.8 <sup>a</sup> (4.4–9.2)	31.4 (26.8–36.1)	16.5 (13.3–19.7)	
Household income adequacy quintile						
Q1 or Q2 (lowest)	78.7 (74.9–82.6)	45.1 (40.6–49.7)	5.3 <sup>a</sup> (3.4–7.2)	28.3 (23.7–32.8)	21.3 (17.4–25.1)	.103
Q3 (middle)	83.4 (78.2–88.6)	53.4 (45.5–61.3)	8.3 <sup>a</sup> (3.8–12.9)	21.6 (15.4–27.9)	16.6 (11.4–21.8)	
Q4 or Q5 (highest)	84.2 (80.6–87.7)	46.8 (41.2–52.4)	7.7 <sup>a</sup> (4.3–11.1)	29.7 (23.8–35.5)	15.8 (12.3–19.4)	
Immigrant status						
Non-immigrant	82.2 (79.7–84.8)	47.1 (43.5–50.7)	7.4 (5.4–9.3)	27.7 (24.3–31.3)	17.8 (15.2–20.3)	.459
Immigrant	79.8 (69.9–87.8)	51.0 (39.4–62.6)	NR <sup>c</sup>	24.6 <sup>a</sup> (15.9–33.3)	21.2 <sup>a</sup> (12.2–30.1)	
Aboriginal status						
Non-Aboriginal	81.8 (79.1–84.4)	46.4 (42.7–50.1)	7.2 (5.2–9.2)	28.2 (24.5–31.8)	18.2 (15.6–20.9)	.942
Aboriginal	81.5 (74.1–88.9)	50.6 (40.2–61.0)	NR <sup>c</sup>	22.2 <sup>a</sup> (12.4–31.9)	18.5 <sup>a</sup> (11.1–25.9)	
Geographic region						
British Columbia	81.3 (74.4–88.2)	57.1 (47.7–66.4)	NR <sup>c</sup>	16.3 <sup>a</sup> (9.4–23.3)	18.7 <sup>a</sup> (11.8–25.6)	.078
Prairie	79.4 (74.1–84.7)	45.8 (38.7–53.0)	8.0 <sup>a</sup> (3.3–12.8)	25.5 (18.2–32.9)	20.6 (15.3–25.9)	
Ontario	79.5 (75.1–83.9)	42.6 (37.3–47.9)	5.9 <sup>a</sup> (3.1–8.8)	31.0 (25.2–36.8)	20.5 (16.1–24.9)	
Quebec	85.8 (81.1–90.5)	46.8 (39.4–54.2)	7.7 <sup>a</sup> (3.5–12.0)	31.2 (24.6–37.9)	14.2 <sup>a</sup> (9.5–18.9)	
Atlantic	88.6 (84.7–92.5)	60.6 (53.4–67.7)	NR <sup>c</sup>	22.5 (16.3–28.7)	11.4 <sup>a</sup> (7.5–15.3)	

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**TABLE 1 (continued)**  
**Sociodemographic and clinical characteristics among Canadians aged 18 years and older with a self-reported mood and/or anxiety disorder diagnosis by treatment type (n = 2916), 2014 SLCDC-MA**

Medication AND/OR counselling (n = 2438; 81.8%)		Medication ONLY (n = 1548; 47.6%)	Counselling ONLY (n = 164; 6.9%)	Medication AND counselling (n = 726; 27.3%)	Neither (n = 478; 18.2%)	Medication AND/ OR counselling vs. neither  Chi-square test
% (95% CI)		% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	<i>p</i> -value
Place of residence						
Rural	81.8 (77.0–86.5)	55.2 (49.2–61.2)	5.6 <sup>a</sup> (2.9–8.4)	20.9 (16.1–25.7)	18.2 (13.5–23.0)	.995
Urban	81.8 (79.0–84.5)	46.0 (42.2–49.8)	7.1 (5.1–9.2)	28.6 (24.8–32.4)	18.2 (15.5–21.0)	
CLINICAL CHARACTERISTICS						
Disorder type						
Mood disorder only	81.9 (78.1–85.7)	58.4 (53.2–63.6)	3.2 <sup>a</sup> (1.9–4.5)	20.3 (16.3–24.3)	18.1 (14.3–21.9)	.049*
Anxiety disorder only	76.9 (71.3–82.5)	44.1 (37.2–50.9)	12.5 <sup>a</sup> (7.4–17.5)	20.4 <sup>a</sup> (13.0–27.8)	23.1 (17.5–28.7)	
Concurrent mood and anxiety disorders	85.0 (81.3–88.6)	36.5 (31.3–41.7)	7.6 <sup>a</sup> (4.1–11.1)	40.8 (35.0–46.6)	15.0 (11.4–18.7)	
Disorder duration (years)						
0–4	80.8 (75.8–85.9)	35.1 (29.0–41.3)	15.0 (10.4–19.7)	30.7 (24.1–37.2)	19.2 (14.1–24.2)	.857
5–19	82.0 (78.3–85.6)	52.0 (46.9–57.2)	4.6 <sup>a</sup> (2.3–6.9)	25.3 (20.6–30.1)	18.0 (14.4–21.7)	
20+	82.7 (78.6–86.8)	52.1 (46.4–57.7)	2.4 <sup>a</sup> (0.8–4.0)	28.2 (22.6–33.9)	17.3 (13.2–21.4)	
Physical comorbidities (number)						
0	82.4 (78.6–86.1)	45.6 (40.1–51.2)	9.3 <sup>a</sup> (5.8–12.8)	27.5 (21.9–33.0)	17.6 (13.9–21.4)	.271
1–2	80.1 (76.6–83.6)	46.7 (42.1–51.3)	6.1 <sup>a</sup> (3.9–8.3)	27.4 (22.9–31.8)	19.9 (16.4–23.4)	
3+	85.4 (80.3–90.6)	56.6 (49.1–64.1)	NR <sup>c</sup>	26.6 (19.0–34.1)	14.6 <sup>a</sup> (9.4–19.7)	

**Abbreviations:** CI, confidence interval; n, unweighted number; NR, non-reportable; Q, quintile; SLCDC-MA, Survey on Living with Chronic Diseases in Canada—Mood and Anxiety Disorders Component.

**Note:** Percentages and 95% CIs are based on weighted data.

<sup>a</sup> High sampling variability (coefficient of variation between 16.6% and 33.3%).

<sup>b</sup> Linear regression analysis.

<sup>c</sup> Coefficient of variation > 33.3%.

<sup>\*</sup> Statistically significant at p-value < .05 level.

having received counselling included age, household income adequacy, geographic region and disorder type.

Being older (age 35 + years vs. 18–34 years) was associated with taking medications and/or having received counselling. This finding was mainly driven by the large proportion of older individuals (35 + years) taking medications, as those in the younger age group (18–34 years) were more likely to report having received counselling only or neither treatment. Without detailed knowledge of the respondents' symptomatology, it is not possible to discern whether these age-related findings pertaining to treatment use are due to symptom severity (i.e. symptoms being less severe among those who were younger vs. those older) or other

factors such as age-related treatment preferences, treatment accessibility and availability, etc. Having said that, studies have shown that younger adults prefer psychological to pharmacological treatment<sup>30</sup> and they are also more reluctant to seek professional help<sup>31–33</sup> compared to older adults.

We found that a higher household income adequacy was associated with taking medications and/or having received counselling. There is a range of evidence that demonstrates that those with a higher socioeconomic status have increased access to almost every health service available, despite having a generally higher health status.<sup>34</sup> A study examining determinants that lead Canadian adults to consult family physicians, psychiatrists, psychologists,

psychotherapists and other health professionals for mental health reasons found that those with lower levels of education and income adequacy were less likely to use mental health services, specifically specialty providers of psychotherapy.<sup>35</sup> Furthermore, a Canadian study that examined barriers to mental health care using data from the Canadian Community Health Survey concluded that “despite universal health insurance, there are significant inequities in access to mental health care for low-income Canadians.”<sup>36,p.1</sup>

Living in the Atlantic region or Quebec (vs. Ontario) was associated with taking medications and/or having received counselling. Provincial differences in the use of mental health services have previously

**TABLE 2**  
**Association between sociodemographic and clinical characteristics and use of “medication and/or counselling” compared to “neither” among Canadians aged 18 years and older with a self-reported mood and/or anxiety disorder diagnosis (n = 2916), 2014 SLCDC-MA**

	Adjusted OR <sup>a</sup> (95% CI)	p-value
<b>SOCIODEMOGRAPHIC CHARACTERISTICS</b>		
<b>Sex</b>		
Female	1.4 (0.9–2.1)	.150
Male	Referent	
<b>Age groups (years)</b>		
35–49	2.5 (1.4–4.5)	.002*
50–64	2.4 (1.3–4.5)	.007*
65+	3.9 (1.8–8.2)	.000*
18–34	Referent	
<b>Marital status</b>		
Single/never married	1.1 (0.7–1.8)	.638
Widowed/separated/divorced	1.2 (0.8–2.0)	.385
Married/living common-law	Referent	
<b>Respondent's education level</b>		
Post-secondary	1.3 (0.9–1.9)	.140
Less than post-secondary	Referent	
<b>Household income adequacy quintile</b>		
Q3 (middle)	1.4 (0.9–2.3)	.135
Q4 or Q5 (highest)	1.9 (1.3–2.9)	.002*
Q1 or Q2 (lowest)	Referent	
<b>Immigrant status</b>		
Non-immigrant	2.0 (0.7–6.1)	.206
Immigrant	Referent	
<b>Aboriginal status</b>		
Non-Aboriginal	0.9 (0.4–1.7)	.637
Aboriginal	Referent	
<b>Geographic region</b>		
British Columbia	1.1 (0.7–2.0)	.650
Prairie	0.9 (0.5–1.4)	.615
Quebec	1.8 (1.1–3.0)	.032*
Atlantic	2.4 (1.4–4.2)	.002*
Ontario	Referent	
<b>Place of residence</b>		
Urban	1.1 (0.7–1.7)	.615
Rural	Referent	
<b>CLINICAL CHARACTERISTICS</b>		
<b>Disorder type</b>		
Mood disorder only	1.9 (1.2–2.9)	.007*
Concurrent mood and anxiety disorders	2.2 (1.4–3.5)	.001*
Anxiety disorder only	Referent	
<b>Duration of disorder (years)</b>		
0–4	1.7 (0.9–3.0)	.101
5–19	1.3 (0.8–2.2)	.246
20+	Referent	

Continued on the following page

been shown to exist<sup>35,37</sup> and results from our study might well reflect real regional differences. However, given the many nested factors that may contribute to our observations, we refrain from drawing any specific inferences from these findings.

Finally, having concurrent mood and anxiety disorders or mood disorders only (vs. anxiety disorders only) was associated with taking medications and/or having received counselling. Given that concurrent disorders have been shown to be associated with more severe symptomatology and worse health-related outcomes compared to a single disorder,<sup>38,39</sup> it is not surprising that individuals with concurrent mood and anxiety disorders were more likely to report using both treatments. This finding aligns with available evidence that favours the concomitant use of pharmacological and psychological therapies such as cognitive-behavioural therapy when managing individuals with concurrent mood and anxiety disorders.<sup>40–42</sup> Furthermore, it is expected that those with mood disorders only (vs. anxiety disorders only) would be more likely to take medications in light of the evidence that demonstrates lower treatment adequacy for anxiety disorders compared to depression.<sup>8</sup>

We found no significant adjusted ORs between treatment type and sex, marital status, respondent education level, immigrant status, Aboriginal status, place of residence, duration of disorder or number of physical comorbidities.

As previously mentioned, the choice to use pharmacological and/or psychological treatment is influenced by a number of factors including clinical evidence regarding effectiveness, patient's preference and adherence, treatment response, availability and accessibility, trained health care providers and financial considerations. While psychological counselling has been shown to have comparable effects as medication in several depressive and anxiety disorders,<sup>43</sup> and there is evidence to suggest that psychotherapy is generally preferred over pharmacotherapy,<sup>44,45</sup> findings from our study demonstrated that individuals with mood and/or anxiety disorders are more likely to be treated with medication. This could be due to a number of factors, including individuals' limited knowledge of the benefits of psychotherapy treatments, availability and access to

**TABLE 2 (continued)**  
**Association between sociodemographic and clinical characteristics and use of “medication and/or counselling” compared to “neither” among Canadians aged 18 years and older with a self-reported mood and/or anxiety disorder diagnosis (n = 2916), 2014 SLCDC-MA**

	Adjusted OR <sup>a</sup> (95% CI)	p-value
<b>Physical comorbidities (number)</b>		
0	1.0 (0.5–1.9)	.948
1–2	0.8 (0.5–1.4)	.427
3+	Referent	

**Abbreviations:** CI, confidence interval; n, unweighted number; OR, odds ratio; Q, quintile; SLCDC-MA, Survey on Living with Chronic Diseases in Canada—Mood and Anxiety Disorders Component.

**Note:** ORs and 95% CIs are based on weighted data.

<sup>a</sup> Adjusted for all variables in the model including sex, age, marital status, respondent's level of education, adjusted household income adequacy quintiles, immigrant status, Aboriginal status, geographic region, place of residence, type of disorder, duration of disorder and number of physical comorbidities.

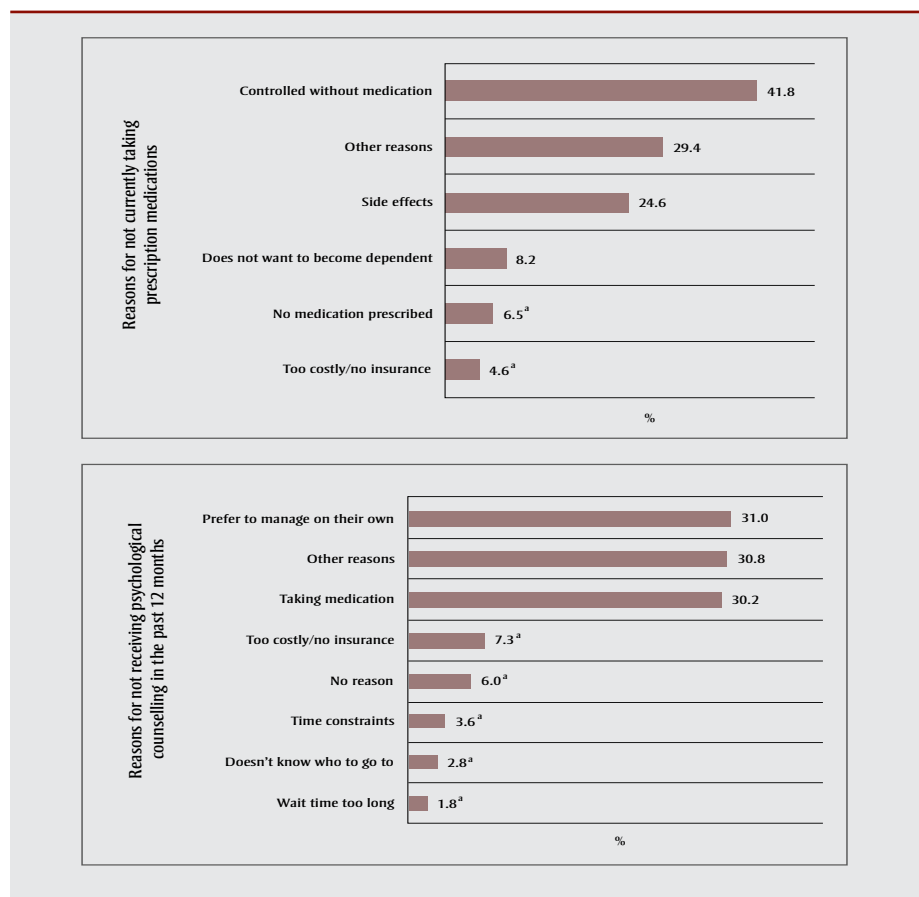
\* Statistically significant at p-value < .05 level.

such mental health services, physicians' treatment preferences and treatment-related costs. Some international efforts to overcome treatment accessibility issues have shown promise, as demonstrated in Australia and England, where publicly funded psychotherapy programs have increased access to care and resulted in positive clinical outcomes.<sup>46,47</sup> A few provinces in Canada are also exploring this issue.<sup>48-50</sup>

Among the most common reasons for not taking medications were “controlled without medication,” and “side effects.” The most common reasons for not having received counselling included “prefer to manage the condition themselves,” and “taking medication.” According to the literature, low perceived need and attitudinal barriers, particularly the desire to handle the problem on one's own, are the most common reasons for not initiating or continuing any form of treatment among individuals with common mental disorders.<sup>51</sup> In addition, treatment-related side effects are a well-documented barrier in the use of pharmacological treatments, especially among those with depressive disorders,<sup>52</sup> and difficulty recognizing one's need for help, self-reliance and cost are among the most common barriers to seeking and continuing psychological treatment.<sup>53</sup> Understanding the disorder and the treatment course as well as having a positive relationship with the treating physician improve uptake and adherence to treatment in the management of mood and anxiety disorders.<sup>13,52</sup>

Despite having a self-reported mood and/or anxiety disorder diagnosis, close to one-fifth (18.2%) of affected Canadians reported they are not taking medications and have not received counselling in the past 12 months. These individuals tended to be younger (aged 18–34 years), have lower household income and have an anxiety disorder only compared to those taking medications and/or having received counselling. Interestingly, it has been shown that younger adults who strongly preferred psychological counselling over pharmacological treatment, but did not receive it, were likely to go without treatment altogether.<sup>44</sup> In addition, income-related barriers affect people's use of specialty providers of psychotherapy.<sup>35</sup> However, we do not know the severity of these individuals' symptoms nor their need for treatment. Also, we need to keep in mind the normal process by which

**FIGURE 2**  
**Reasons for not taking prescription medications (n = 642) or not receiving psychological counselling in the past 12 months (n = 1378) among Canadians aged 18 and older with a self-reported mood and/or anxiety disorder diagnosis, 2014 SLCDC-MA**



**Abbreviations:** n, unweighted number; SLCDC-MA, Survey on Living with Chronic Diseases in Canada—Mood and Anxiety Disorders Component.

**Note:** Percentages are based on weighted data and do not add up to 100% because respondents could report more than one reason.

<sup>a</sup> High sampling variability (coefficient of variation between 16.6% and 33.3%).

people decide to pursue treatment and that individuals may decline treatment on principle or for other reasons.

Finally, it is important to note that while our study focusses on those who self-reported a mood and/or an anxiety disorder diagnosis, as shown in a recent Canadian study,<sup>25</sup> up to 50% of those with symptoms compatible with a mood disorder are not diagnosed. Therefore, our study sample is a subset of all those who could potentially benefit from receiving a diagnosis and ultimately, treatment.

### Strengths and limitations

Our study has a number of strengths, including a sample that was population-based and a survey that was administered by trained personnel using a structured format. However, the findings should be considered in light of several limitations. First, the generalizability of our study findings is limited due to the exclusion of Canada's three territories and some populations known to be at greatest risk for mental illness, such as Aboriginal peoples<sup>54,55</sup> living on Indian reserves or Crown lands, the homeless,<sup>56</sup> institutionalized patients<sup>57</sup> and prison residents<sup>58</sup> from the survey.

Second, our study findings are based on self-report data; therefore, recall bias, social desirability bias and/or conscious nonreporting may have resulted in misclassification of the outcome or explanatory variables.

Third, the 68.9% response rate for the 2014 SLCDC-MA may introduce bias due to non-response; however, Statistics Canada performed adjustments to the weights of responding persons to account for the loss of excluded or non-responding persons who are part of the SLCDC target population.<sup>28</sup>

Fourth, the survey did not collect information on some important topics related to the management of mood and/or anxiety disorders. For example, it lacked questions on newer modes of psychological counselling such as Internet-based cognitive behavioural therapy and support, the adequacy of treatment received and the severity of the respondents' symptoms. In order to further our understanding of the use of medications and/or counselling in the management of mood and/or anxiety

disorders, these topics could be explored in a future survey. However, to ensure numbers are large enough to draw meaningful conclusions, targeting individuals with known mental health disorders rather than a subsample drawn from a population-based survey may be a preferred approach.

Fifth, there was an unexpectedly high proportion of respondents who selected the "other" response option when reporting reasons for not taking medications and/or having received psychological counselling, which we were not able to explore. Studies involving an in-depth qualitative analysis of the potential barriers followed by cognitive testing of the set items are warranted to ensure the response options in future surveys are more informative. Also, the inclusion of an open-ended question after the "other" response option to permit further exploration of potential barriers in future surveys is recommended.

Finally, there were a number of limitations due to limited sample size. For instance, our immigrant status measure lacked sensitivity related to the challenges faced by newer Canadians because we were not able to disaggregate this characteristic by time since immigration, due to small numbers in our immigrant classification. In addition, given the limited number of respondents in the counselling-only subgroup ( $n = 164$ ) we were obliged to collapse both household income adequacy quintiles and education levels to ensure our estimates met Statistics Canada's sampling variability release guidelines.<sup>28</sup> Furthermore, a number of estimates relating to the characteristics of those within the counselling-only subgroup had high sampling variability (i.e. high coefficient of variation), limiting our ability to draw conclusions regarding potentially significant differences between the four treatment subgroups.

### Conclusion

The vast majority of Canadian adults with a self-reported mood and/or anxiety disorder diagnosis reported taking prescription medications and/or having received psychological counselling in the past 12 months. While psychological counselling has been shown to have effects comparable with medication in several depressive and anxiety disorders, findings from our study demonstrated that most Canadian adults diagnosed with mood and/or anxiety

disorders take medication; therefore, further exploration regarding access to and receipt of psychological counselling is warranted. Insights gained from exploring the factors associated with the use of these well-established treatments, and the reasons for not using them, emphasize the importance of discussing treatment options and perceived barriers with patients in order to ensure they receive the best treatment according to their need and preference.

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### Conflicts of interest

The authors declare no conflict of interest. No external financial or material support was obtained for this study.

### Authors' contributions

SO carried out the statistical analysis and writing of the manuscript. All authors contributed to the study concept, informed the data analysis, assisted in the interpretation of results, critically revised the manuscript and approved the final version.

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